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WASHINGTON, DC 20005

EXAMINER

ABEL JALIL, NEVEEN

ART UNIT	PAPER NUMBER
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2165

MAIL DATE	DELIVERY MODE
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10/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/722,554

Applicant(s)

SASAKI ET AL.

Examiner

Neveen Abel-Jalil

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

1. In response to Applicant's Amendment filed on September 19, 2007, claim 9 is newly added. Therefore, claims 1, and 3-9 are now pending for examination in the application.
2. Applicants response has overcome the rejections under 35 USC 112, second, and most of the previous claim objections expect for correction to claim 5 to replace "if" statement in line 2 with "when" and to replace "for completing" with "to complete".

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, and 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (U.S. Patent No. 5,896,321) in view of Ikeno (U.S. Patent No. 6,128,635).

As to claim 1, Miller et al. discloses a numerical expression retrieving device for completing and retrieving a numerical expression comprising:

input means for inputting a record to be retrieved, the record containing an incomplete numerical expression (See column 5, lines 54-60, wherein "numerical expression" is read on "score"/"value");

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syntactic parsing means for parsing a syntactic structure of the inputted record (See column 6, lines 37-47);

an attribute dictionary which stores attribute information and unit system information therein, the attribute information including attribute names indicative of attributes, attribute contents indicative of meanings of the attributes, and basic units of measurements to supplement omitted representations, the unit system information including prefixes to decide omissions, and multiples indicative of meanings of the prefixes (See column 8, lines 22-38);

a co-occurrence word dictionary which stores therein information including attribute names indicative of attributes, and co-occurrence words to decide the attribute names (See column 6, lines-21-29);

omission completion means for completing the incomplete numerical expression by adding by adding a basic unit of measurement to a prefix of in the inputted record by referring to the parsed syntactic structure and said attribute dictionary and by further referring to said co-occurrence word dictionary (See column 5, lines 4-20, also see column 6, lines 21-29);

extraction means for extracting a word with the basic unit of measurement added to the prefix in the inputted record, as a retrieval keyword for the record after the completion of the incomplete numerical expression by the omission completion means (See column 16, lines 1-24);

a database which stores data therein (See column 8, lines 22-38); and

storage and retrieval means for storing the record with the incomplete numerical expression completed, the inputted record, and the extracted retrieval keyword in the database (See column 6, lines 59-67, and see column 7, lines 1-6);

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wherein said omission completion means searches the inputted record for a numerical expression shortened to a prefix only, from within the inputted record by referring to the parsed syntactic structure and said co-occurrence word dictionary (See column 8, lines 53-67),

determines a co-occurrence word of one of the prefixes included in the unit system information on the basis of the parsed syntactic structure for the incomplete numerical expression (See column 16, lines 25-35), determines an attribute name of the prefix by referring to said co-occurrence word dictionary on the basis of the determined co-occurrence word, and adds the basic unit of measurement to the prefix in the inputted record by referring to said attribute dictionary on the basis of the determined attribute name (See column 15, lines 28-51).

Miller et al. teaches the claimed invention but does not explicitly teach a document database. However, Miller et al. teaches storage and dictionaries of entries in Figure 5, block 502.

Ikeno teaches document database (See Ikeno Figure 1, block 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Miller et al. by the teaching of Ikeno to include document database because it is well known in the art that storage and/or memory can be a document database.

As to claim 3, Miller et al. as modified discloses comprising:

output means (See Miller et al. Figure 1, 47, Display);

wherein said omission completion means decides whether or not the incomplete numerical expression in the inputted record is a numerical expression shortened to a prefix only, by referring to the parsed syntactic structure and said co-occurrence word dictionary, and when

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the incomplete numerical expression in the inputted record is indeed shortened to a prefix only, said omission completion means notifies a user to that effect by said output means and prompts the user to re-input a numerical expression (See Miller et al. column 6, lines 30-35, and see Miller et al. column 14, lines 20-37).

As to claim 4, Miller et al. as modified discloses comprising:

output means (See Miller et al. Figure 1, 47, Display);

wherein said omission completion means decides whether or not the incomplete numerical expression in the inputted record is a numerical expression shortened to a prefix only, by referring to the parsed syntactic structure and said co-occurrence word dictionary, and when the incomplete numerical expression in the inputted record is indeed shortened to a prefix only, said omission completion means presents basic units of measurement and attribute information by said output means and prompts a user to select one of the basic units measurement, and completes the incomplete numerical expression with the a basic unit of measurement selected by the user (See Miller et al. Figure 2A, Display with user selection, also see Miller et al. column 4, lines 35-52).

As to claim 5, Miller et al. as modified discloses wherein, if a basic unit of measurement for completing the incomplete numerical expression has not been selected, said omission completion means completes the shortened numerical expression with a plurality of basic units of measurement (See Miller et al. column 2, lines 56-60, and see Miller et al. column 4, lines 45-

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60).

As to claim 6, Miller et al. as modified discloses wherein said document storage and retrieval means retrieves a record whose retrieval keyword agrees with the incomplete numerical expression in the inputted record, from said document database, and outputs the retrieved record as a retrieved result by said output means (See Ikeno Figure 41, and see Ikeno column 16, lines 5-21).

As to claim 7, Miller et al. as modified discloses wherein the record comprises a document (See Ikeno Figure 1, block 2, block 3).

As to claim 8, Miller et al. as modified discloses wherein the record comprises a numerical expression (See Miller et al. column 5, lines 54-60, wherein “numerical expression” is read on “score”/“value”).

As to claim 9, Miller et al. as modified discloses wherein the incomplete numerical expression includes the prefix for the basic unit of measurement without the basis unit of measurement itself (See Miller et al. column 12, lines 29-40, wherein it is broadly interpreted that the unit of measure to be equivalent to any other term stored in the dictionary).

Response to Arguments

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5. Applicant's arguments filed on September 19, 2007 have been fully considered but they are not persuasive.

In response to Applicant's argument that "Miller et al. does not teach or disclose an attribute dictionary... a co-occurrence word dictionary... and an omission completion means...and the attribute dictionary and co-occurrence word dictionary both store attribute information" is acknowledged but not deemed to be persuasive.

The Examiner is broadly interpreting Miller et al.'s dictionaries 304 and 306 to read on the two argued dictionaries, although they are not physically separate, but that is not required in the claims. The claim simply recites, "an attribute dictionary" and "co-occurrence word dictionary" and without indication as to have them exist physically separate and/or organized separately.

Miller et al. teaches in column 14, lines 20-46:

Specifically, a binary search is conducted of the static dictionary 304 to identify the words in the static dictionary that have the same prefix as the partial data entry 204. A linear search is also conducted of the dynamic dictionary 306 to identify the entries in the dynamic dictionary that have the same prefix as the partial data entry 204. This produces the list of feasible words 311, which is compared to the recently received data entries in a word ID history 318.

Both dictionaries in the word prediction system of Miller et al. are searches (or referred to) in order to acquire the "completion" to omission, the static dictionary holds word attributes and so does the dynamic dictionary, which also holds co-occurrence information for those words. The omission completion means is part of word prediction system of Miller et al. as it eventually competes a partial data entry as taught in column 13, lines 1-12.

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Both dictionaries store attribute information, it does not have to be the same information in both. The claim language does not explicitly call for that, instead it calls for "attribute information" in both instances and they appear to be different type of information.

An attribute is broadly interpreted to be a property that provides more information about an element such as classification level, unique reference identifiers, or formatting information.

Miller et al. in column 9, lines 17-30 teaches the words are stored and references in the dictionary by a unique identifier and hash signatures which broadly being interpreted to be "attribute information".

Thus, any information related to the stored words and kept in the dictionary reads on the argued limitation.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neveen Abel-Jalil whose telephone number is 571-272-4074.

The examiner can normally be reached on 8:30AM-5:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Neveen Abel-Jalil
Primary Examiner
October 1, 2007